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PART I.

IMPORTANT GOVERNMENT ORDERS.

DEVELOPMENT SECRETARIAT.

Working of the Agricultural Department for 1930-31.

READ—

Letter No. Per. 45—E. of 31-32, dated 6th November 1931, from the Director of Agriculture in Mysore, submitting the Administration Report of the Agricultural Department for the year 1930-31.

ORDER No. D. 4737-4790—A & F. 88-31-3, DATED 19TH MARCH 1932.

Recorded.

Personnel.—Dr. L. C. Coleman was in charge of the Department during the year except for a brief period of a little over two months from 9th September 1930 to 18th November 1930, when he was absent on deputation in Java and Mr. H. V. Krishnaiya, Deputy Director of Agriculture at Headquarters acted for him.

Seasonal Conditions.—The seasonal conditions were on the whole favourable except for the insufficient Mungar rains in some parts of the State. The yields of ragi in the main ragi areas and of such important commercial crops as Sugar-cane, Groundnut and Cotton were above the average while the Coffee Crop was about the average. But for the slump in prices, the year would have been one of the best from the Agricultural standpoint.

Chemical Section.—Manurial experiments on Coffee, Cotton, Sugar-cane, Coconut, Arecanut, Paddy, Ragi and Jola made further progress on the several Government Farms and the Director states that similar experiments on Groundnut will soon be started. The results so far obtained indicate that practically all the crops experimented on respond to the use of nitrogenous and phosphatic manures and that the most striking results are obtained from the readily available forms of artificial fertilisers. But as observed by the Director of Agriculture, the utility of commercial fertilisers is a problem of agricultural economics and they can be used profitably only when there is a prospect of getting an adequate return for the money invested in manures and possibly the use on a large scale of these fertilisers will be limited to Sugar-cane and Coffee and perhaps also Paddy.

One of the interesting investigations of this Section is to ascertain the effect of acidity and alkalinity on the growth of coffee and the results of the preliminary experiments conducted so far show that a condition close to neutrality is the most favourable to Coffee in Mysore unlike Brazil where it is stated an acid state of the soil promotes the growth of this crop.

The Soil Survey of the Irwin Canal area was completed during the year, a total area of 70,000 acres coming under the survey. The areas fit and unfit for sugar-cane cultivation have been mapped out. This survey has been accompanied by a geological survey and will be supplemented by physical and chemical analysis of representative soil samples and it is expected that the results of the whole investigation when published will furnish one of the most complete surveys undertaken for regulating the scientific development of a large tract like the Irwin Canal area which comes newly under irrigation.

Mycological Section.—The supervision of operation for the control of plant diseases in the field for which remedies have been found and the investigation in the laboratory of diseases for which remedial measures have yet to be discovered formed the work of this Section. The field work was mainly concerned with the control of areca Koleroga, *Alternaria* blight of potatoes and some of the Coffee diseases.

The scientific investigations carried on during the year related chiefly to diseases of areca other than *koleroga*, Coffee *koleroga*, apple root rot, ragi smut and sandal spike. Government are glad to learn that the public interest in the work of this branch of the Department is increasing as shown by the large number of specimens of different diseases sent by private persons for identification and for information regarding the measures to be adopted for remedying them.

Entomological Section.—A number of important problems engaged the attention of this Section in the year under review. A simple method of rearing on a large scale an egg parasite of various serious moth borers has been devised and experiments for testing the result of liberating these parasites in fields just before the borers attack crops will be undertaken to see how far this means will prove effective as a measure of insect control. Further work for ascertaining the extent, if any, of infestation on the estates in the State by the Coffee-berry Borer, *Stephano-dores-hampeii*, was continued and the progress of this investigation for arriving at a definite conclusion as to whether this pest is there or not awaits identification of specimens sent to Europe. A Wood-tar distillate manufactured by the Bhadravati Iron Works has been found to be effective in killing the eggs and young larvae of the white coffee stem borer which is the most serious insect pest of coffee in the State. An important line of new work started in the year is the investigation of the insecticidal value of various plants growing in the forests which furnish fish poisons. It has been found that some of these plants are effective as larvicides and as spraying material against plant lice and it is probable that they might also be useful as sheep dips and experiments in this promising field for isolating the active principle or principles of these fish poisons are in progress.

Seed Distribution Section.—The work of this section consists in the organisation of measures for the multiplication and distribution of improved strains and the operations during the year were confined chiefly to the supply of ragi, paddy, cotton and sugar-cane seed. It is satisfactory to note that the distribution of seed is being carried out largely through the co-operation of Village Panchayats and Co-operative Societies. It is of the highest importance as observed by the Director that steps should be taken to ensure that the full benefit of new varieties of seeds evolved for giving higher yields is obtained by the raiyats and Government are glad to note that the work of keeping a continuous stream of pure seed flowing from the Government Farms to the raiyats' fields is receiving the increasing attention of the Department.

Plant Breeding.—The operations of the Botanical Section have been considerably expanded and it is now carrying out breeding work on coffee, pepper, hain ragi, kar ragi, paddy, sugar-cane, cotton, jola, groundnuts and potatoes. Results of value have been reached in the case of most of these crops and investigations for evolving still higher yielding varieties are being continued. Preliminary work on two more crops, namely castor and coconuts has been started. The sugar-cane seedling sections developed by the Department are rapidly replacing the old cane varieties in most of the sugar-cane areas. A large area will soon come under sugar-cane in the Irwin Canal and this crop will accordingly assume even more importance than now and one of the main functions of the new farm in that area will be the testing and multiplication of the highest yielding varieties already evolved for supply of their seed to the raiyats there. Date groves are well suited for growing coconut and the breeding work on it is of great importance as the evolution of a high yielding variety will help to bring released areas of these groves under this valuable commercial crop. It is reported that Soy beans grown from seed brought by Dr. Coleman from Java have come up well and it is to be hoped that the attempts of cultivating this crop which has both food and oil value will prove successful.

Experimental Farms.—It is reported that the work of selection of high yielding pepper vines has made satisfactory progress on the Marthur Farm and that the distribution of cuttings to growers will be commenced from the current year. The Robusta Coffee appears from experiments carried out on this Farm to be suitable to the conditions in the Shimoga Malnad where the Arabica does not do well. The work at the Coffee Experimental Station at Balehonnur made satisfactory progress during the year. The main object of this station is to evolve a coffee variety which, while retaining the quality for which the Mysore Arabica, is famous will be resistant to diseases. Extensive breeding operations will be carried out to achieve this object and the work of bringing together on this Farm all the different species and varieties of coffee is accordingly in progress and it is expected that by the close of this year the Station will have almost all the commercially important species and varieties together with quite a number of selections from most of them. Breeding work on cardamom has also been started on this Farm. The establishment of a large farm comprising 600 acres of land in the Irwin Canal area was sanctioned during the year to deal with the many important problems connected with the agricultural development of this tract. One of the main objects of this farm is to supply large quantities of seed of the most prolific varieties of crops suited to the area.

Agricultural Engineering.—The supply of an efficient plough designed to suit local conditions and made available to the raiyats at as low a price as possible is one of the essential requisites for improving agriculture and it is satisfactory to note that the Department of Agriculture has with the co-operation of the Department of Industries and Commerce arranged for the manufacture in the Central Industrial Workshop of a new type of plough, that one hundred ploughs of this type have already been made and found to be satisfactory and that they cost 25 per cent less than the ploughs which they are intended to replace. This is a work of great importance and should receive continuous attention for making and improving the efficiency of the plough and reducing its cost still further.

Demonstration and Propaganda.—The prevailing economic conditions adversely affected the work of demonstration and propaganda. While the distribution of improved seed considerably increased, the sales of implements and Commercial fertilisers declined heavily owing chiefly to the slump in prices. The number of Co-operative Societies engaged in the sale of implements, seeds and manures remained the same as in the previous year but the volume of business transacted by them showed a perceptible reduction; on the other hand, the number of Village Panchayets which evinced interest in agricultural work showed a marked increase. As many as 716 Panchayets against half that number in the previous year participated in propaganda work by purchasing and demonstrating improved implements and assisting in the distribution of certified seed ragi. Government are glad to learn that most of the District Boards made special grants for agricultural demonstrations.

Agricultural Education.—All the four Agricultural Schools at Hebbal, Chikkanhalli, Hassan, and Ramakrishnapur are growing in popularity. The School at Hebbal had 72 students in the year, the highest on record and a number of applications for admission had to be rejected for lack of accommodation. The increasing demand for

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agricultural education and the practical interest shown by the District Boards in affording financial assistance to the schools in their jurisdictions are very gratifying features. The Director states that it is proposed to lease out blocks of land belonging to the School at Ramakrishnapur to the passed students of the several Agricultural Schools and provide them with inexpensive buildings for the accommodation of themselves and their Live Stock with a view to give them the chance of working for a period of from three to five years as tenants under the supervision of the School staff. This appears to be an excellent arrangement for giving the young men practical experience of farming under business conditions and Government will await with interest the results of working of this experiment.

Live Stock.—The Cattle Breeding Farm at Ajjampur which is the Central Station for carrying out all work relating to the improvement of cattle in the State, made satisfactory progress in the year under review. Due to additions made from the Amrut Mahal Department and to births on the Farm the stock increased to nearly 700. It is reported that two experiments were started during the year namely (1) the use of selected Hallikar bulls from the best breeding area of the State for heading a herd of 200 cows on the Farm, the object being to compare their progeny with those of Amrut Mahal Stud Bulls; (2) the selection of two dozen calves for special feeding during the first year with a view to see if the young stock will show under this arrangement better growth and conformation. The results of these experiments will be watched with interest. An important feature of sheep improvement work is the breeding of double crosses undertaken with the object of ascertaining the possibility of a stable breed combining some of the good qualities of the merino with the hardiness of the country sheep. This experiment is reported to have given encouraging results as the progeny of these crosses show a gratifying uniformity. Government are glad to learn that the Kolar Sheep Breeding Association continues to do good work and that the Kolar District Board is showing considerable interest in the work of this Association.

Oil Cake Advances.—The outstandings under these advances are heavy and prompt action should be taken for their recovery. It is stated that most of these cases are pending with the Revenue Department. The attention of the Deputy Commissioners concerned is invited to this matter and they are requested to arrange for early realisation.

Conclusion.—The report is a record of progress in spite of several adverse factors. All branches of activity of the Department have maintained their high standard of efficiency and Government desire to express their appreciation of the administration of the Department by Dr. Coleman.

B. T. KESAVA IYENGAR;

Secretary to Government,
Development Department.